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| 10/584,334 | 01/23/2007 | Sung-Moon Shin | 123054-06080149 | 5065 |

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| EXAMINER |
|---|
| PEREZ, JULIO R |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 June 2006*.
2a)☐ This action is **FINAL**.          2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-22* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-22* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *23 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some *   c)☐ None of:
       1.☒ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *06/23/2006;01/23/2007;12/26/2008*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1.      The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.      Claims 20-21are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 20 recites the limitation "the normal mobile station" in lines 11 and 12.

There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "the normal mobile station" in line 2.  There is

insufficient antecedent basis for this limitation in the claim.

### *Claim Rejections - 35 USC § 103*

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.      Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Swant (2005/0032494) in view of Ko et al (2005/0260982).

Regarding claim 1, Swant discloses an apparatus for testing and analyzing a

base station having a smart antenna, which is for a WCDMA (Wideband Code Division

Multiple Access) mobile communication system, the apparatus comprising:

a test analyzer body (test unit, MTU, 260, Figure 2) for performing management

of a test call including channel establishment (par. 36, connection initiated, i.e.,

establishment of channel connection) or release of the base station (BTU, 250, Figure

2),

and measuring and analyzing an operational state of the system including

service-specific functions and performance of the system (pars. 37, 39, 42, 45, 52-54,

59-60 describe the test unit testing performance of the system or base station(s) via the

test unit or a mobile phone test unit);

and a test analyzer interface for transmitting or receiving a protocol signal

message, traffic, and performance data to or from the test analyzer body (Figures 2-3;

pars. 42-45, describe different functions being monitored, to include traffic, i.e., calls).

Swant does not specifically suggest connecting to the base station to generate

mass mobile communication multimedia test calls, however, Ko discloses measuring

the performance of a system with testing traffic or calls via the test unit apparatus (pars.

23, 26, 49, 61, i.e., lines 613, streaming video).

Swant and Ko are analogous art because they are from a similar field of

endeavor in testing the performance of mobile communications systems. Thus, it would

have obvious to a person of ordinary skill in the art, at the time of invention, to modify

the teachings of Swant generating mass mobile communication test calls taught by Ko

in order to provide the monitoring of the mobile system with variety of test data from

different types of mobile call data.

Regarding claim 2, the combination discloses the apparatus as claimed in claim

1, wherein the test analyzer body comprises:

a user interface for generating a test call so as to enable a direct connection to

the base station for monitoring the performance of the system (Ko, Figure 6; par. 115,

test traffic performed by user with GUI capability);

a test call processor for selecting a protocol corresponding to the test call (Ko,

par 115), analyzing a signal message for the protocol to monitor a call setup procedure,

processing the test call to analyze traffic, and monitoring the quality of the traffic

according to the analysis result of the traffic (Ko, pars. 115; 108, 110, the test unit

monitors and analyzes traffic within the system);

a protocol processor for generating a signal message used for the selected

protocol (Ko, par. 110, produces call or traffic signaling);

a data processor for analyzing and processing the performance data of the test

call processor (Ko, par. 110, analyzing the system performance);

and a network interface for communicating with the test analyzer interface to

transmit/receive the protocol signal message, the traffic, and a performance message

(pars. 110 and 122, test traffic analysis performed with the test unit and software).

Regarding claim 3, the combination discloses the apparatus as claimed in claim

2, wherein the test call processor comprises: a test call analyzer for selecting a

corresponding protocol according to the test call (Ko, par 115); a traffic analyzer for

reporting the protocol signal message to the test call analyzer to monitor the call setup

procedure (Ko, pars. 115; 108, 110, the test unit monitors and analyzes traffic within the

system), or reporting the analysis result of the traffic to the test call analyzer to monitor

the quality of the traffic (Ko, pars. 115; 108, 110, the test unit monitors and analyzes

traffic within the system); and a signal message database for storing the signal

message in order (Ko, par. 122).

Regarding claim 4, the combination discloses claim 2, wherein the data

processor comprises: a data analyzer for analyzing the performance data of the test call

processor (Ko, pars. 115; 108, 110, the test unit monitors and analyzes traffic within the

system); and a performance database for storing an analysis result of the data analyzer

(Ko, 122, storing data files for performing analysis at later time).

Regarding claim 5, the combination discloses claim 1, wherein the test call

includes a voice, video, or Internet multimedia call, the test call communicating with a

mobile station according to a corresponding protocol (Swant, Figure 3; par.45, describe

at least testing voice call).

Regarding claim 6, the combination discloses claim 2, wherein the protocol

processor establishes a channel to a mobile station using a message stored in a signal

message database according to the corresponding protocol (Swant, pars. 36-37, 45,

communication with mobile station and monitoring traffic).

Regarding claim 7, the combination discloses claim 6, wherein when a channel to

the mobile station is established, the protocol processor reports the result to the network

interface and a traffic analyzer of the test call processor and transmits/receives the

corresponding traffic to/from the mobile station (Swant, Par. 41, mobile station under

test and providing air link with a GSM protocol).

Regarding claim 8, the combination discloses claim 3, wherein the analysis result

of the traffic includes an analysis result of a frame error rate, or a propagation delay (Ko,

describes measuring, i.e., analysis of error rate or data delay, pars. 58, 60, 118, 134).

Regarding claim 9, the combination discloses claim 4, wherein the analysis result

of the data processor includes an analysis result of a modulation/demodulation state, or

an operational performance of the base station (Ko, performs test traffic, i.e.,

performance of the network, pars. 61, 115)..

Regarding claim 10, the combination discloses claim 4, wherein the data stored

in the performance database are reported to the user interface by a request of an

operator, enabling the operator to monitor the performance of the mobile

communication system 9 Ko, Par. 115, with user interface, i.e., GUI, for visualizing test

parameters and for analysis).

**Claim 11** contains subject matter similar to claim 1, and thus, is rejected under

similar rationale. Further, Ko discloses test operator to test parameters such as traffic,

for instance.

Regarding claim 12, the combination discloses claim 11, further comprising:

transmitting the protocol signal message, the traffic, and the performance data (Ko,

Pars. 115-116, 118).

Regarding claim 13, the combination discloses claim 11, further comprising:

storing the signal message and the performance data in a database (Ko, par. 122

shows storing of data files collected).

**Claim 14** contains subject matter similar to claim 5, and thus, is rejected under similar rationale.

**Claim 15** contains subject matter similar to claim 9, and thus, is rejected under similar rationale.

5.      Claims 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al (20030119452) in view of Ko in view of Jeong et al (2003/0081622).

Regarding claim 16, Kim discloses a communication protocol structure of an apparatus for test analysis of a base station, which is a communication protocol structure of an apparatus for test analysis of a base station having a smart antenna in a WCDMA mobile communication system, the communication protocol structure comprising:

an application layer for requesting a call control service to control a test call generated from a test analyzer body (par. 78, requesting registration data or call data for data control);

d) a radio resource control (RRC) layer for performing the radio resource control service and then requesting a radio link control service (pars. 67, 78, providing radio resource connection and linkage to system);

(e) a radio link control (RLC) layer for performing the radio link control service and then requesting a medium access control service (pars. 91, provides radio release of radio link of service);

(f) a medium access control (MAC) layer for performing the medium access control service and then requesting a frame protocol service (pars. 84, 85, 91, transmission to an RLC layer with access control).

Although Kim teaches a system collecting data for function performance of the system, Kim does not specifically teach a call control layer for performing the call control service and then requesting a mobility management service or a mobility management layer for performing the mobility management service and then requesting a radio resource control service. Ko, however, discloses test traffic and measurements of traffic, signaling and investigating functioning of network in a mobile network scheme, mobility scheme included (Abstract, lines 5-14; pars. 23, 26, 49, 60-61, 108, 110, 114-115, 122).

Kim and Ko are analogous art because they are from a similar field of endeavor analyzing network traffic. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Kim with the feature mobility management layer for performing the mobility management and Radio Request Control taught by Ko in order to generate active measurements of the mobile device around the system under test.

Kim and Ko do not explicitly teach a frame protocol layer for performing the frame protocol service and then requesting an Ethernet service or an Ethernet layer for transferring a service request of the test analyzer body to a test analyzer interface. Jeong, however, recites a system frame protocol performance and Ethernet layer for service request (Pars. 9, 17, 19, Ethernet signaling and frame control).

Kim, Ko, and Jeong are analogous art because they are from a similar field of

testing networks via traffic analysis and performing function test on the system.  Thus, it

would have been obvious to a person of ordinary skill in the art, at the time of invention,

to modify the teachings of Kim in view of Ko with providing testing via Ethernet layer

taught by Jeong in order transfer data during test traffic of the system.

Regarding claim 17, the combination discloses claim 16, further comprising: a

codec layer for processing multimedia traffic (Ko, par. 115, encoding employed).

**Claim 19** contains subject matter similar to claim 16, and thus, is rejected under

similar rationale.

**Claim 20** contains subject matter similar to claim 16, and thus, is rejected under

similar rationale.

Regarding claim 21, the combination discloses claim 20, wherein traffic

communication between the test analyzer body and the normal mobile station is

achieved through a codec layer for processing multimedia traffic (Ko, pars. 115-116).

Regarding claims 18, 22, the combination discloses claim 16, further comprising:

a node-B application protocol (NBAP) layer for transmission of performance data

between the test analyzer and the base station (Kim, pars. 67, 205, transmission via

node-B application and connecting).

*Conclusion*

6.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JULIO PEREZ whose telephone number is (571)272-

7846.  The examiner can normally be reached on 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, PATRICK EDOUARD can be reached on (571)272-7603. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


5/10/2010                                              /J. P./
                                                       Examiner, Art Unit 2617
/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2617